

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: August 28, 2003, 01:15:34 ; Search time 69 Seconds
(without alignments)
540.591 Million cell updates/sec

Title: US-09-308-829-2

Perfect score: 1232
Sequence: 1 MKKINIKIVFITVILIST.....KDNRIIMKNFHDYLEK 235

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A.Geneseq_19Jun03:*
1: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1980.DAT:*
2: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1981.DAT:*
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12: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1991.DAT:*
13: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1992.DAT:*
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21: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2000.DAT:*
22: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2001.DAT:*
23: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2002.DAT:*
24: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1232	100.0	235	19	AA662784
2	1215	98.6	235	19	AA662787
3	1215	98.6	235	19	AA662788
4	1182	95.9	235	23	ABP29257
5	1166	94.6	235	19	AA662785
6	1165	94.6	235	19	AA662786
7	1100	89.3	208	12	AA13210
8	1100	89.3	208	14	AA45018
9	1100	89.3	208	22	AA67345

10	1100	89.3	208	23	AB676241	Staphylococcus pyo
11	1095	88.9	207	23	AAE25364	Streptococcus pyog
12	1091	88.6	207	23	AAE25373	S. pyogenes pyroge
13	1086	88.1	207	23	AAE25368	S. pyogenes pyroge
14	1086	88.1	207	23	AAE25374	S. pyogenes pyroge
15	1085	88.1	207	23	AAE25395	S. pyogenes pyroge
16	1085	88.1	207	23	AAE25370	S. pyogenes pyroge
17	1082	87.8	207	23	AAE25367	S. pyogenes pyroge
18	1076	87.3	207	23	AAE25371	S. pyogenes pyroge
19	1072	87.0	207	23	AAE25372	S. pyogenes pyroge
20	1067	86.6	207	23	AAE25369	S. pyogenes pyroge
21	1063	86.3	207	23	AAE25365	S. pyogenes pyroge
22	670.5	54.4	143	23	AAE25363	Streptococcus pyog
23	556	45.1	232	23	ABP29143	Streptococcus poly
24	394.5	32.0	234	21	AA93742	Amino acid sequenc
25	394.5	32.0	234	23	ABP29092	Streptococcus poly
26	391.5	31.8	137	21	AA93741	Amino acid sequenc
27	296	24.0	233	21	AA93741	Amino acid sequenc
28	279	22.6	258	23	ABP29565	Streptococcus poly
29	215	17.5	70	23	ABP29293	Streptococcus poly
30	211	17.1	69	23	ABP29986	Streptococcus poly
31	211	17.1	251	21	AA770109	Streptococcus pyro
32	211	17.1	251	23	ABP79508	Streptococcus pyro
33	210	17.0	221	12	AA413209	Streptococcus pyro
34	210	17.0	321	14	AA45017	Staphylococcus ent
35	210	17.0	221	23	ABP76240	Staphylococcus pyo
36	210	17.0	251	18	AAW12151	Streptococcus pyog
37	210	17.0	251	18	AAW12152	Streptococcus pyog
38	210	17.0	251	18	AAW12153	Streptococcus pyog
39	210	17.0	251	18	AAW12146	Streptococcus pyog
40	210	17.0	251	18	AAW12097	Streptococcus pyog
41	210	17.0	251	19	AAW59780	Amino acid sequenc
42	209.5	17.0	228	14	AA45013	Staphylococcus ent
43	209.5	17.0	228	22	ABP7340	Staphylococcus ent
44	209.5	17.0	228	23	ABP76236	Staphylococcus aut
45	209.5	17.0	250	18	AAW12145	Streptococcus pyog

ALIGNMENTS

RESULT 1	AA662784	standard; Protein; 235 AA.
ID	AA662784	
XX	XX	
AC	AA662784:	
XX	XX	
DT	24-SEP-1998	(first entry)
XX	XX	
DE	Streptococcus pyrogenic exotoxin type C (SPE-C).	
XX	XX	
KW	Streptococcus pyrogenic exotoxin type C; SPE-C toxin; STSS;	
KW	Streptococcus toxic shock syndrome; mutant; vaccine.	
XX	XX	
OS	Streptococcus pyrogenes.	
XX	XX	
FH	Key	Location/Qualifiers
FT	Peptide	1..27
FT	Protein	/note="signal peptide"
FT		28..235
FT		/note="mature protein"
PN	W09824910-A2.	
XX	XX	
PD	11-JUN-1998.	
XX	XX	
PF	05-DEC-1997;	97WO-US22125.
XX	XX	
PR	06-DEC-1996;	96US-0033251.
XX	XX	
PA	(MINU) UNIV MINNESOTA.	
XX	XX	
PI	Gahr PJ, Mitchell DT, Ohlendorf D, Schlievert PM;	

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XX WPI: 1998-33329/29.
DR N-PSDB: AAV42209.
XX
PT Mutant non-lethal Streptococcus pyrogenic exotoxin type C - useful
PT for vaccines to protect from biological activity of wild type toxin
PT e.g. to prevent or ameliorate streptococcal toxic shock syndrome
XX
PS Disclosure: Fig 1: 55pp; English.
XX
CC The present sequence represents a Streptococcus pyrogenic exotoxin type
CC C (SPE-C) toxin. Streptococcus pyrogenes is a pathogen of humans which
CC can cause mild infections e.g. impetigo or severe acute diseases e.g.
CC scarlet fever and STSS. SPE-C is thought to be associated with
CC streptococcal toxic shock syndrome (STSS) and has several proposed
CC biological activities, e.g. has been shown to block liver clearance of
CC endotoxin and act as a "superantigen" i.e. induce T lymphocytes
CC proliferation, resulting in abnormally high levels of circulating
CC cytokines TNF- beta and IFN- gamma. The SPE-C protein is mutated (see
CC AAM62785-88) to make it substantially non-lethal compared to wild-type
CC SPE-C toxin. The mutant toxins are useful in vaccines which can be
CC administered to animals (especially humans) to protect against at least
CC one biological activity of a wild-type SPE-C. Such vaccines are
CC especially useful to reduce symptoms associated with toxic shock such as
CC STSS in humans.
XX
SQ Sequence 235 AA:
Query Match 100.0%; Score 1232; DB 19; Length 235;
Best Local Similarity 100.0%; Pred. No. 1e-113;
Matches 235; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKKINIKIYFIIITVILISTYFTYHQSDDISNVKSDLLVATTPYDKCRVNFST 60
Db 1 MKKINIKIYFIIITVILISTYFTYHQSDDISNVKSDLLVATTPYDKCRVNFST 60
QY 61 THTLNDTQKYRGKDYIISSEMSYEASQKFRDDHVDVGLFYILNSHGEYIYGITPA 120
Db 61 THTLNDTQKYRGKDYIISSEMSYEASQKFRDDHVDVGLFYILNSHGEYIYGITPA 120
QY 121 QNNKVNHLKLGNIIFISGESQONLNKKIIEKDIYTFQEDIFKIRKYLMDNYKIYDATSPY 180
Db 121 QNNKVNHLKLGNIIFISGESQONLNKKIIEKDIYTFQEDIFKIRKYLMDNYKIYDATSPY 180
QY 181 VSGRIEIGTKDGKHEQIDLFDSPEGTRSDIFAKYKDNRIINMKNSHFDIYLEK 235
Db 181 VSGRIEIGTKDGKHEQIDLFDSPEGTRSDIFAKYKDNRIINMKNSHFDIYLEK 235

RESULT 2
AAM62787
ID AAM62787 standard; Protein; 235 AA.
XX
AC AAM62787:
XX
DE 24-SEP-1998 (first entry)
XX
DE Mutant streptococcal pyrogenic exotoxin type C (SPE-C).
XX
KW Streptococcus pyrogenic exotoxin type C; SPE-C toxin; STSS;
KW streptococcal toxic shock syndrome; mutant; vaccine.
XX
OS Streptococcus pyrogenes.
XX
FH Key Location/Qualifiers
FT Peptide 1..27
FT Protein /note="signal peptide"
FT /note="28..235"
FT /note="mature protein"
FT Misc-difference 42 optionally substituted with Ala"
FT /label="Y15A"
FT /note="Tyr at position 15 of the mature protein

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FT FT substituted with Ala"
FT Misc-difference 65
FT /label="N38A
FT /note="Asn at position 38 of the mature protein
FT FT substituted with Ala"
XX
PN WO9824910-A2.
XX
PD 11-JUN-1998.
XX
PE 05-DEC-1997; 97WO-US22125.
XX
PR 06-DEC-1996; 96US-0033251.
XX
PA (MINU ) UNIV MINNESOTA.
XX
PI Gahr PJ, Mitchell DT, Ohlendorf D, Schlievert PM;
DR WPI: 1998-33329/29.
XX
PT Mutant non-lethal Streptococcus pyrogenic exotoxin type C - useful
PT for vaccines to protect from biological activity of wild type toxin
PT e.g. to prevent or ameliorate streptococcal toxic shock syndrome
XX
PS Claim 7: Page -: 55pp; English.
XX
CC The present sequence represents a mutant Streptococcus pyrogenic
CC exotoxin type C (SPE-C) toxin. Streptococcus pyrogenes is a pathogen
CC of humans which can cause mild infections e.g. impetigo or severe acute
CC diseases SPE-C is thought to be associated with streptococcal toxic
CC shock syndrome (STSS) and has several proposed biological activities,
CC e.g. has been shown to block liver clearance of endotoxin and act
CC as a "superantigen" i.e. induce T lymphocytes proliferation, resulting
CC in abnormally high levels of circulating cytokines TNF- beta and
CC IFN- gamma. The mutant toxins are useful in vaccines which can be
CC administered to animals (especially humans) to protect against at
CC least one biological activity of a wild-type SPE-C. Such vaccines are
CC especially useful to reduce symptoms associated with toxic shock such
CC as STSS in humans.
CC note: this sequence does not appear in the specification; it was created
CC using information provided.
XX
SQ Sequence 235 AA:
Query Match 98.6%; Score 1215; DB 19; Length 235;
Best Local Similarity 99.1%; Pred. No. 5e-112;
Matches 233; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 MKKINIKIYFIIITVILISTYFTYHQSDDISNVKSDLLVATTPYDKCRVNFST 60
Db 1 MKKINIKIYFIIITVILISTYFTYHQSDDISNVKSDLLVATTPYDKCRVNFST 60
QY 61 THTLNDTQKYRGKDYIISSEMSYEASQKFRDDHVDVGLFYILNSHGEYIYGITPA 120
Db 61 THTLNDTQKYRGKDYIISSEMSYEASQKFRDDHVDVGLFYILNSHGEYIYGITPA 120
QY 121 QNNKVNHLKLGNIIFISGESQONLNKKIIEKDIYTFQEDIFKIRKYLMDNYKIYDATSPY 180
Db 121 QNNKVNHLKLGNIIFISGESQONLNKKIIEKDIYTFQEDIFKIRKYLMDNYKIYDATSPY 180
QY 181 VSGRIEIGTKDGKHEQIDLFDSPEGTRSDIFAKYKDNRIINMKNSHFDIYLEK 235
Db 181 VSGRIEIGTKDGKHEQIDLFDSPEGTRSDIFAKYKDNRIINMKNSHFDIYLEK 235

RESULT 3
AAM62788
ID AAM62788 standard; Protein; 235 AA.
XX
AC AAM62788:
XX
DE 24-SEP-1998 (first entry)
XX

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DE Mutant streptococcocal pyrogenic exotoxin type C (SPE-C).
XX KW Streptococcus pyrogenic exotoxin type C; SPE-C toxin; STSS;
KM streptococcocal toxic shock syndrome; mutant; vaccineine.
XX OS Streptococcus pyrogenees.
XX FH Key location/Qualifiers
FH Peptide 1..27
FT /note= "signal peptide"
FT Protein 28..235
FT /note= "mature protein"
FT Misc-difference 44 optionally substituted with Ala"
ET /Label= Y17A
FT /note= "Tyr at position 17 of the mature protein
TT substituted with Ala"
FT Misc-difference 65
FT /Label= N38A
FT /note= "Asn at position 38 of the mature protein
TT substituted with Ala"
PN W09824910-A2.
PD 11-JUN-1998.
XX XX
XX 05-DEC-1997; 97WO-US22125.
XX PR 06-DEC-1996; 96US-0033251.
XX PA (MINU ) UNIV MINNESOTA.
PI Gahr PJ, Mitchell DT, Ohlendorf D, Schlievert PW;
DR WPJ; 1998-333329/29.
XX PT Mutant non-lethal Streptococcus pyrogenic exotoxin type C - useful
PT for vaccines to protect from biological activity of wild type toxin
PT e.g. to prevent or ameliorate streptococcocal toxic shock syndrome
PS Claim 9; Page -: 55pp; English.
```

The present sequence represents a mutant Streptococcus pyrogenic
exotoxin type C (SPE-C) toxin. Streptococcus pyrogenees is a pathogen
of humans which can cause mild infections e.g. impetigo or severe acute
diseases SPE-C is thought to be associated with streptococcocal toxic
shock syndrome (STSS) and has several proposed biological activities,
e.g. has been shown to block liver clearance of endotoxin and act
as a "superantigen" i.e. induce T lymphocytes proliferation, resulting
in abnormally high levels of circulating cytokines TNF- beta and
IFN- gamma. The mutant toxins are useful in vaccines which can be
administered to animals (especially humans) to protect against at
least one biological activity of a wild-type SPE-C. Such vaccines are
especially useful to reduce symptoms associated with toxic shock such
as STSS in humans.

note: This sequence does not appear in the specification; it was created
using information provided.

Sequence 235 AA;

	Query Match	Best Local Similarity	Matches	Conservative	%	Score	IDB	Length	Gaps
Df	1 MKKINIITVITYILTYFYTHYQSQSKDINSVKSDLYATTPPYDKCVNFST	98.6%	99.1%	Fred. No. 5e-112;	2:	Indels	0:	Gaps	0:
Dc	1 MKNINIKIIVTIYLITLSTFTHYQSOSKKDISNVKSDLTAATTIPDYADCRVFNT	99.1%	99.1%	Fred. No. 5e-112;	2:	Indels	0:	Gaps	0:
Dg	61 THTLINDIQKYRGKDYYISSEMSYEASOKFRKRDHVDVFGELYILNSHTGEVTYGITPA	99.1%	99.1%	Fred. No. 5e-112;	2:	Indels	0:	Gaps	0:
Dh	61 THTLAIIDPQRKGMDYYISSEMSYSAGOKFKRKDHVDVFGELYLEILNSHTGEXTYIGITPA	99.1%	99.1%	Fred. No. 5e-112;	2:	Indels	0:	Gaps	0:
Dj	121 QNNKVNRKLNLPLSGESQQNLNKILLERDVTFQEIRIDEKIRKYLMNDNYITPATSPY	99.1%	99.1%	Fred. No. 5e-112;	2:	Indels	0:	Gaps	0:

Db	121	QNNKYNHLLGNLPISGSSQONLNKKILLEDYTFQGLDTRKIRYILMDNKIYDTPSY	180
QY	181	VSGRIEIGTKDGKHEQIDLFDSPENGTRSDIFFAKKYKDRRIIMKNKFSHFIDYLEK	235
Db	181	VSGRIEIGTKDGKHEQIDLFDSPENGTRSDIFFAKKYKDRRIIMKNKFSHFIDYLEK	235
RESULT 4			
ID	ABP29257	standard; Protein; 235 AA.	
XX	ABP29257;		
AC	ABP29257;		
XX			
XX	02-JUL-2002	(first entry)	
DT			
XX			
DE	Streptococcus polypeptide SEQ ID NO 7690.		
XX			
KW	Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae;		
XX	group A streptococcus; Streptococcus pyogenes; antibacterial.		
KM	ant inflammatory; infection; vaccine; meningitis; gene therapy.		
XX			
OS	Streptococcus pyogenes.		
XX			
PN	MO200234771-A2.		
XX			
PD	02-MAY-2002.		
XX			
PF	29-OCT-2001; 2001WO-GB04789.		
XX			
XX	27-OCT-2000; 2000GB-0026333.		
PR	24-NOV-2000; 2000GB-0028727.		
XX	07-MAR-2001; 2001GB-0005640.		
PR			
PA	(CHIR-) CHIRON SPA.		
XX	(GENO-) INST GENOMIC RES.		
XX			
PI	Telford J, Maignant V, Margarit Ros YI, Grandi G, Fraser C;		
PI	Tettelin H;		
XX			
DR	WPI: 2002-352536/38.		
XX	N-PSDB: ABN69888.		
PT			
PT	New Streptococcus protein for the treatment or prevention of infection		
PT	or disease caused by Streptococcus bacteria, such as meningitis, and		
PT	for detecting a compound that binds to the protein -		
XX			
PS	Claim 1; Page 3906; 4525pp; English.		
XX			
CC	The invention relates to a protein (ABP25413-ABP30895) from group B		
CC	Streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS		
CC	(Streptococcus pyogenes), comprising one of 5483 sequences (S1) given in		
CC	the specification. The proteins have antibacterial and anti-inflammatory		
CC	activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and		
CC	antibodies that bind (I) are used in the manufacture of medicaments for		
CC	the treatment or prevention of infection or disease caused by		
CC	Streptococcus bacteria, particularly S. agalactiae and S. pyogenes.		
CC	Nucleic acids encoding (I) are used to detect Streptococcus in a		
CC	biological sample. (I) is used to determine whether a compound binds to		
CC	(I). A composition comprising (I) or a nucleic acid encoding (I), may be		
CC	used as a vaccine or diagnostic composition. The disease caused by		
CC	Streptococcus that is prevented or treated may be meningitis. Nucleic		
CC	acid encoding (I) may be used to recombinantly produce (I) and may be		
CC	used in gene therapy. Antibodies to (I) are used for affinity		
CC	chromatography, immunoassays, and distinguishing/identifying		
CC	Streptococcus proteins.		
XX			
SO	Sequence 235 AA;		
Query Match 95.9%; Score 1182; DB 23; Length 235;			
Best Local Similarity 97.0%; Pred. No. 9.3e-109;			
Matches 228; Conservative 2; Mismatches 5; Indels 0; Gaps 0;			

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OY 1 MKKINIIVITVILLISTVFTYHQSDDSKDISNVKSDLLVAVTTPYDKDCRVNFS 60
DB 1 MKKINIIVITVILLISTVFTYHQSDDSKDISNVKSDLLVAVTTPYDKCKNCVNST 60
OY 61 THTLNIDPQKRGKDYISSEMSYEASQKFKRDHVDVFGFLYILNSHTGEYIVGCTPA 120
DB 61 THTLNIDPQKRGKDYISSEMSYEASQKFKRDHVDVFGFLYILNSHTGEYIVGCTPA 120
OY 121 QNNKVNHRKLGNLFISSGSOQNLNNKILLEDIYTFQEIPIRKYLMNDYKIIDATSPY 180
DB 121 QNNKVNHRKLGNLFISSGSOQNLNNKILLEDIYTFQEIPIRKYLMNDYKIIDATSPY 180
OY 181 VSGRIEIGTKDGKHEQIDLFDSPNEGTRSDIFAKYKDNRIINMKNFHFIDYLEK 235
DB 181 VSGRIEIGTKDGKHEQIDLFDSPNEGTRSDIFAKYKDNRIINMKNFHFIDYLEK 235

RESULT 5
AAW62785
ID AAW62785 standard; Protein; 235 AA.
AC AAW62785;
XX
XX 24-SEP-1998 (first entry)
DE Mutant streptococcal pyrogenic exotoxin type C (SPE-C).
XX Streptococcus pyrogenic exotoxin type C; SPE-C toxin; STSS;
KW streptococcal toxic shock syndrome; mutant; vaccine.
XX Streptococcus pyrogenes.
OS

Key Location/Qualifiers
FH 1..27
FT Peptide /note= "signal peptide"
FT Protein 28..235
FT /note= "mature protein"
FT Misc-difference 39 /note= "Asp at position 12 of the mature protein
FT optionally substituted with Ala, Glu, Asn,
FT Glu, Lys, Arg, Ser or Thr"
FT Misc-difference 42 /note= "Tyr at position 15 of the mature protein
FT optionally substituted with Phe, Ala, Gly,
FT Ser or Thr"
FT Misc-difference 44 /note= "Tyr at position 17 of the mature protein
FT optionally substituted with Phe, Ala, Gly, Glu,
FT Lys, Arg, Asp, Ser or Thr"
FT Misc-difference 62 /note= "His at position 35 of the mature protein
FT optionally substituted with Phe, Ala, Gly, Glu,
FT Lys, Arg, Asp, Ser, Tyr or Thr"
FT Misc-difference 65 /note= "Asn at position 38 of the mature protein
FT optionally substituted with Ala, Asp, Glu,
FT Lys or Arg"
FT Misc-difference 162 /note= "Lys at position 135 of the mature protein
FT optionally substituted with Asp or Glu"
FT Misc-difference 165 /note= "Lys at position 138 of the mature protein
FT optionally substituted with Asp or Glu"
FT Misc-difference 166 /note= "Tyr at position 139 of the mature protein
FT optionally substituted with Phe, Ala, Gly,
FT Glu, Lys, Arg, Asp, Ser or Thr"
FT Misc-difference 169 /note= "Asp at position 142 of the mature protein
FT optionally substituted with Ala, Glu,
FT Glu, Lys, Arg, Asn, Ser or Thr"
XX
XX W09824910-A2.

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XX 11-JUN-1998.
PD
XX
XX 05-DEC-1997; 97MO-US22125.
PF
XX
XX 06-DEC-1996; 96US-0033251.
PR
XX
XX (MINU ) UNIV MINNESOTA.
PI Gahr PJ, Mitchell DT, Ohlendorf D, Schlievert PM;
XX
XX WPI; 1998-333329/29.
DR
XX
XX Mutant non-lethal Streptococcus pyrogenic exotoxin type C - useful
PT for vaccines to protect from biological activity of wild type toxin
PT e.g. to prevent or ameliorate streptococcal toxic shock syndrome
XX
XX Claim 4; Page -: 55pp; English.
PS
XX
XX The present sequence represents a mutant Streptococcus pyrogenic
CC exotoxin type C (SPE-C) toxin. Streptococcus pyrogenes is a pathogen
CC of humans which can cause mild infections e.g. Impetigo or severe acute
CC diseases SPE-C is thought to be associated with streptococcal toxic
CC shock syndrome (STSS) and has several proposed biological activities,
CC e.g. has been shown to block liver clearance of endotoxin and act
CC as a "superantigen" i.e. induce T lymphocytes proliferation, resulting
CC in abnormally high levels of circulating cytokines TNF- beta and
CC IFN- gamma. The mutant toxins are useful in vaccines which can be
CC administered to animals (especially humans) to protect against at
CC least one biological activity of a wild-type SPE-C. Such vaccines are
CC especially useful to reduce symptoms associated with toxic shock such
CC as STSS in humans.
CC note: this sequence does not appear in the specification; it was created
CC using information provided.
XX
XX SQ Sequence 235 AA;
XX
XX Query Match 94.6%; Score 1166; DB 19; Length 235;
XX Best Local Similarity 96.2%; Pred. No. 3.6e-107;
XX Matches 226; Conservative 0; Mismatches 9; Indels 0; Gaps 0;
OY 1 MKKINIIVITVILLISTVFTYHQSDDSKDISNVKSDLLVAVTTPYDKDCRVNFS 60
DB 1 MKKINIIVITVILLISTVFTYHQSDDSKDISNVKSDLLVAVTTPYDKCKNCVNST 60
OY 61 THTLNIDPQKRGKDYISSEMSYEASQKFKRDHVDVFGFLYILNSHTGEYIVGCTPA 120
DB 61 THTLNIDPQKRGKDYISSEMSYEASQKFKRDHVDVFGFLYILNSHTGEYIVGCTPA 120
OY 121 QNNKVNHRKLGNLFISSGSOQNLNNKILLEDIYTFQEIPIRKYLMNDYKIIDATSPY 180
DB 121 QNNKVNHRKLGNLFISSGSOQNLNNKILLEDIYTFQEIPIRKYLMNDYKIIDATSPY 180
OY 181 VSGRIEIGTKDGKHEQIDLFDSPNEGTRSDIFAKYKDNRIINMKNFHFIDYLEK 235
DB 181 VSGRIEIGTKDGKHEQIDLFDSPNEGTRSDIFAKYKDNRIINMKNFHFIDYLEK 235

RESULT 6
AAW62786
ID AAW62786 standard; Protein; 235 AA.
AC AAW62786;
XX
XX 24-SEP-1998 (first entry)
DE Mutant streptococcal pyrogenic exotoxin type C (SPE-C).
XX Streptococcus pyrogenic exotoxin type C; SPE-C toxin; STSS;
KW streptococcal toxic shock syndrome; mutant; vaccine.
XX Streptococcus pyrogenes.
XX
XX W09824910-A2.

```

FH Key Location/Qualifiers
 FT Peptide 1..27
 FT /note= "signal peptide"
 FT Protein 28..235
 FT /note= "mature protein"
 FT Misc-difference 39
 FT /label= D12A
 FT /note= "Asp at position 12 of the mature protein
 FT Misc-difference 42
 FT /label= Y15A
 FT /note= "Tyr at position 15 of the mature protein
 FT Misc-difference 44
 FT /label= Y17A
 FT /note= "Tyr at position 17 of the mature protein
 FT Misc-difference 62
 FT /label= H35A
 FT /note= "His at position 35 of the mature protein
 FT Misc-difference 65
 FT /label= N38D
 FT /note= "Asn at position 38 of the mature protein
 FT Misc-difference 162
 FT /label= K135D
 FT /note= "Lys at position 135 of the mature protein
 FT Misc-difference 165
 FT /label= K138D
 FT /note= "Lys at position 138 of the mature protein
 FT Misc-difference 166
 FT /label= Y139A
 FT /note= "Tyr at position 139 of the mature protein
 FT Misc-difference 169
 FT /label= D142N
 FT /note= "Asp at position 142 of the mature protein
 FT /note= "optionally substituted with Asp"
 FT W09824910-A2.
 FT 11-JUN-1998.
 FT 05-DEC-1997; 97WO-US22125.
 FT 06-DEC-1996; 96US-0033251.
 FT (MINU) UNIV MINNESOTA.
 FT Gahr PJ, Mitchell DT, Ohlendorf D, Schlievert PM.
 FT WPI; 1998-333329/29.
 FT Mutant non-lethal Streptococcus pyrogenic exotoxin type C - useful
 FT for vaccines to protect from biological activity of wild type toxin
 FT e.g. to prevent or ameliorate streptococcal toxic shock syndrome
 FT
 PS Claim 5: Page -: 55pp; English.
 CC The present sequence represents a mutant Streptococcus pyrogenic
 CC exotoxin type C (SPE-C) toxin. Streptococcus pyrogenes is a pathogen
 CC of humans which can cause mild infections e.g. impetigo or severe acute
 CC diseases SPE-C is thought to be associated with streptococcal toxic
 CC shock syndrome (STSS) and has several proposed biological activities,
 CC e.g. has been shown to block liver clearance of endotoxin and act
 CC as a "superantigen" i.e. induce T lymphocytes proliferation, resulting
 CC in abnormally high levels of circulating cytokines TNF-beta and
 CC IFN-gamma. The mutant toxins are useful in vaccines which can be
 CC administered to animals (especially humans) to protect against at
 CC least one biological activity of a wild-type SPE-C. Such vaccines are

CC especially useful to reduce symptoms associated with toxic shock such
 CC as STSS in humans.
 CC note: this sequence does not appear in the specification; it was created
 CC using information provided.
 CC
 SQ Sequence 235 AA:
 Query Match 94.6%; Score 1165; DB 19; Length 235;
 Best Local Similarity 96.2%; Pred. No. 4, 5e-107;
 Matches 226; Conservative 2; Mismatches 7; Indels 0; Gaps 0;
 QY 1 MKKINIKIVFIIITVILISTFEYFHQSDSKDISNYSKSLAYATTIPDYKDCRYNFT 60
 DB 1 MKKINIKIVFIIITVILISTFEYFHQSDSKDISNYSKSLAAATTPDYDCRYNFT 60
 QY 61 THTLNTDTOKYKRGKDYIISSEMSYEASOKFRDDHVDVGLYILNSHTEYIGGITPA 120
 DB 61 THTLNTDTOKYKRGKDYIISSEMSYEASOKFRDDHVDVGLYILNSHTEYIGGITPA 120
 QY 121 QNNKVNHLGNLFISGESQNNLNKTIIEKDIYFQEIIDFKIRKYLMDNMYKIDATSPY 180
 DB 121 QNNKVNHLGNLFISGESQNNLNKTIIEKDIYFQEIIDFKIRKYLMDNMYKIDATSPY 180
 QY 181 VSGRIEIGTRKDGKHEQIDLFDSPEGSTRSDIFAKYKDNRIIMKNFSHPDIYLEK 235
 DB 181 VSGRIEIGTRKDGKHEQIDLFDSPEGSTRSDIFAKYKDNRIIMKNFSHPDIYLEK 235
 RESULT 7
 AAR13210
 ID AAR13210 standard; Protein; 208 AA.
 AC AAR13210;
 DT 15-OCT-1991 (first entry)
 DE Streptococcal pyrogenic enterotoxin C.
 KW SPE C; cancer treatment; pyrogen; tumouricide; scarlet fever.
 OS Streptococcus NY-5 strain.
 PN W09110680-A.
 PD 25-JUL-1991.
 PF 17-JAN-1991; 91WO-US00342.
 PR 17-JAN-1990; 90US-0466577.
 PA (TERM/) TERMAN D S.
 PI Terman DS;
 PI Terman DS;
 DR WPI; 1991-237984/32.
 PT Treating cancer with enterotoxin from Staphylococcus aureus -
 PT administered by iv injection, having same tumoricidal activity
 PT as Staphylococcal protein A without potential toxic reactions
 PS Disclosure; Fig 1; 74pp; English.
 CC SPE C can be used for tumouricidal treatment, esp. with a haemolysin.
 CC Synthetic polypeptides having structural homology to Streptococcal
 CC pyrogenic exotoxins are claimed, provided the homology includes
 CC statistically significant sequence homology, alignment of Cysteine
 CC residues and similar hydropathy profiles.
 CC See AAR13203-R13211.
 SQ Sequence 208 AA:
 Query Match 89.3%; Score 1100; DB 12; Length 208;
 Best Local Similarity 100.0%; Pred. No. 1e-100;

	Matches	208,	Conservative	0;	Mismatches	0;	Indels	0;	Gaps	0;
QY	28	DSKDISNVKSDLLAYATITTPDYKDCVNFSTHTLLIDPQKRGKDYIISSEMSYEAS	87							
Db	1	DSKDISNVKSDLLAYATITTPDYKDCVNFSTHTLLIDPQKRGKDYIISSEMSYEAS	60							
QY	88	QKFRDHDVADVEGLFIILNSHTGEXIYGGITPAQNNKYNHKLGLFLTSGSQOQLNKKI	147							
Db	61	QKFRDHDVADVEGLFIILNSHTGEXIYGGITPAQNNKYNHKLGLFLTSGSQOQLNKKI	120							
QY	148	ILEKDIYVFOEIDFKIRKRYLMDNKNKIYDATSPYVSGRIEIGTKDCKNHQIDLFPSPNGT	207							
Db	121	ILEKDIYVFOEIDFKIRKRYLMDNKNKIYDATSPYVSGRIEIGTKDCKNHQIDLFPSPNGT	180							
QY	208	RSDFIFAKKDNRIINMKNFSPDIYLEK 235								
Db	181	RSDFIFAKKDNRIINMKNFSPDIYLEK 208								

[illegible]

Query Match	89.3%	Score 1100;	DB 14;	Length 208;
Best Local Similarity	100.0%;	Pred. No. 1e-100;		
Matches 208;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

28 DSKKDISWKSDDLXATITTPYDKDCRVNSTHTLTLNDIQKRGKYYTTSSEMSYAS 87
 |||||

Dd	1	DSKKDJSNNKSDLLVATVITTPYDYKDCRKNFSTTTHLIDIPQKRGADYIYSSEMSYEAS	60
Qy	88	QKQRDDHVDVDFGLFYILNSHTGEYIYGGITPAQNNKVNNKLLGNLFISGESQONLNKKI	147
Dd	61	QKQRDDHVDVDFGLFYILNSHTGEYIYGGITPAQNNKVNNKLLGNLFISGESQONLNKKI	120
Qy	148	ILEKDIYVQEIQEIFKTRKYLMDNMYKYIYATSPYVSGRIETGKGGKHHQIDLPFSPEMGT	207
Dd	121	ILEKDIYVQEIQEIFKTRKYLMDNMYKYIYATSPYVSGRIETGKGGKHHQIDLPFSPEMGT	180
Qy	208	RSDIFAKYKDNRIINNNKNFSHFIDYLEK	235
Dd	181	RSDIFAKYKDNRIINNNKNFSHFIDYLEK	208

RESULT 9
 AAB67345
 ID AAB67345 standard; peptide; 208 AA.
 XX
 AC AAB67345;
 XX
 DT 23-APR-2001 (first entry)
 XX
 DE Streptococcus pyogenes toxin C protein.
 XX
 KW Tumour; cancer; immune; enterotoxin.
 XX
 OS Streptococcus pyogenes.
 XX
 PN US6180097-B1.
 XX
 PD 30-JAN-2001.
 XX
 PF 30-OCT-1998; 98US-0183437.
 XX
 PR 31-JAN-1994; 94US-0189424.
 PR 19-JUN-1995; 95US-0491746.
 PR 03-OCT-1989; 89US-0416530.
 PR 17-JAN-1990; 90US-0466577.
 PR 17-JAN-1991; 91WO-US00342.
 PR 01-JUN-1992; 92US-0891718.
 PR 02-MAR-1993; 93US-0025144.
 XX
 PA (TERM.) TERMAN D S.
 XX
 PI Terman DS;
 XX
 DR WPI; 2001-158657/16.
 XX
 PT Tumor cell capable of stimulating antitumor immune reactivity in vitro
 PT or in vivo comprises exogenous nucleic acids encoding a superantigen
 XX and a costimulatory molecule -
 XX
 PS Disclosure; Fig 2; 16pp; English.
 XX
 CC The present invention relates to a tumour cell capable of stimulating
 CC antitumor immune reactivity in vitro or in vivo contains and
 CC expresses an exogenous nucleic acid molecule encoding a superantigen
 CC or its active fragment and an exogenous nucleic acid molecule
 CC encoding a costimulatory molecule that activates T cells in
 CC conjunction with an antigenic stimulus. The invention may be used
 CC for cancer therapy by stimulating an anticancer immune response
 CC in vivo or ex vivo.
 XX
 SO Sequence 208 AA;

Query Match	89.3%	Score 1100	DB 22	Length 208:
Best Local Similarity	100.0%	Pred. No. 1e-100:		
Matches 208:	Conservative 0:	Mismatches 0:	Indels 0:	Gaps 0:
OY	28	DSKDDISNKSDDLAAATITPYDYKDCRVNFSSTHTLLIDPQKRGKQYIISSEMSYEAS	87	
bb	1	DSKDDISNVSDDLAAATITPYDYKDCRVNFSSTHTLLIDPQKRGKQYIISSEMSYEAS	60	

QY 88 QKFRDHDVDFGLFYLINSHTGEYIYGITPPAONKNVNHKLGNLFISGESOONLNKI 147
 |||||||
 DB 61 QKFRDHDVDFGLFYLINSHTGEYIYGITPPAONKNVNHKLGNLFISGESOONLNKI 120
 QY 148 ILEKDIYTFQEIIDEFKIRKYLMDNKKIYDATSPYVSGRIEIGTKDGKHEQIDLPDSPNEG 207
 |||||||
 DB 121 ILEKDIYTFQEIIDEFKIRKYLMDNKKIYDATSPYVSGRIEIGTKDGKHEQIDLPDSPNEG 180
 QY 208 RSDIFAKYKDNRIITNMKNFSHFIDYLEK 235
 |||||||
 DB 181 RSDIFAKYKDNRIITNMKNFSHFIDYLEK 208
 RESULT 10
 ABB76241
 ID ABB76241 standard; Protein; 208 AA.
 XX ABB76241;
 XX 09-AUG-2002 (first entry)
 DT Staphylococcus pyogenes exotoxin C.
 DE Staphylococcus pyogenes exotoxin C.
 XX Exotoxin C; SPE C; superantigen; antigen; tumour; cancer;
 KM antitumour; therapy.
 XX Streptococcus pyogenes.
 OS Streptococcus pyogenes.
 XX US2002051765-A1.
 PN 02-MAY-2002.
 PD 19-DEC-2000; 2000US-0741503.
 XX 31-JAN-1994; 94US-0189424.
 PR 19-JUN-1995; 95US-0491746.
 PR 03-OCT-1989; 89US-0416530.
 PR 17-JAN-1990; 90US-0466577.
 PR 17-JAN-1991; 91MO-US00342.
 PR 01-JUN-1992; 92US-0891718.
 PR 02-MAR-1993; 93US-0025144.
 XX (TERM/) TERMAN D. S.
 PA Terman DS;
 PI
 XX WPI: 2002-415198/44.
 DR Reagent for treating cancer without the need for e.g. radiotherapy,
 PT comprises a specific V beta subset of T cells sensitized to a growing
 PT tumor and stimulated with superantigens
 XX Disclosure; Fig 2; 17pp; English.
 PS
 XX The present sequence is the protein sequence of exotoxin C (SPE C)
 CC of Streptococcus pyogenes. Similarly is shown, in several
 CC stretches of sequence, between staphylococcal enterotoxins,
 CC streptococcal pyrogenic exotoxins and staphylococcal exfoliative
 CC toxins (see ABB76234-44). In the present invention, synthetic
 CC polypeptides useful in tumour therapy and in blocking or destroying
 CC autoreactive T and B lymphocyte populations are characterized by
 CC substantial structural homology to staphylococcal enterotoxin A and
 CC enterotoxin B, and to streptococcal pyrogenic exotoxins, with
 CC statistically significant sequence homology and similarity (Z value
 CC of Lipman and Pearson algorithm in Monte Carlo analysis exceeding
 CC 6) to include alignment of cysteine residues and similar hydrophatic
 CC profiles. These superantigens are used to treat solid tumours,
 CC including their metastases, without radiation, surgery or
 CC standard chemotherapeutic agents. A claimed method of human cancer
 CC treatment involves contacting haematopoietic cells from a patient
 CC with one or more superantigens ex vivo to generate stimulated cells,
 CC selecting a specific V beta subset of cells, and reintroducing

CC these cells into the patient to induce an in vivo therapeutic,
 CC tumouricidal reaction.
 CC
 SQ Sequence 208 AA;
 Query Match 89.3%; Score 1100; DB 23; Length 208;
 Best Local Similarity 100.0%; Pred. No. 1e-100;
 Matches 208; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 28 DSKKDISNVKSDLLIYATTPYDYKDCRVNESTHTLINTDTOKYRGDYIISSEMSYEAS 87
 |||||||
 DB 1 DSKKDISNVKSDLLIYATTPYDYKDCRVNESTHTLINTDTOKYRGDYIISSEMSYEAS 60
 QY 88 QKFRDHDVDFGLFYLINSHTGEYIYGITPPAONKNVNHKLGNLFISGESOONLNKI 147
 |||||||
 DB 61 QKFRDHDVDFGLFYLINSHTGEYIYGITPPAONKNVNHKLGNLFISGESOONLNKI 120
 QY 148 ILEKDIYTFQEIIDEFKIRKYLMDNKKIYDATSPYVSGRIEIGTKDGKHEQIDLPDSPNEG 207
 |||||||
 DB 121 ILEKDIYTFQEIIDEFKIRKYLMDNKKIYDATSPYVSGRIEIGTKDGKHEQIDLPDSPNEG 180
 QY 208 RSDIFAKYKDNRIITNMKNFSHFIDYLEK 235
 |||||||
 DB 181 RSDIFAKYKDNRIITNMKNFSHFIDYLEK 208
 RESULT 11
 AAE25364
 ID AAE25364 standard; Protein; 207 AA.
 XX AAE25364;
 XX 30-OCT-2002 (first entry)
 DT Streptococcus pyogenes pyrogenic exotoxin C (SPE) wild-type protein.
 DE Streptococcus pyogenes pyrogenic exotoxin C (SPE) wild-type protein.
 XX Immunomodulator; antigen-presenting-cell; APC; immune system; infection;
 KM autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticicide;
 KW immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEC;
 KM fungicide; cytostatic.
 XX Streptococcus pyogenes.
 OS Streptococcus pyogenes.
 XX WO200245739-A1.
 PN 13-JUN-2002.
 PD 04-DEC-2001; 2001WO-NZ00267.
 PF 04-DEC-2000; 2000US-251243P.
 PR (AUCK-) AUCKLAND UNISERVICES LTD.
 PA Fraser JD, Nicholson MJ;
 PI
 XX WPI: 2002-537539/57.
 DR N-PSDB: AAD41385.
 XX Immunomodulator comprising an antigen-presenting-cell targeting
 PT molecule coupled to an immunomodulatory antigen, useful for treating
 PT e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
 PT allergy
 XX Example 3; Page 16; 47pp; English.
 PS
 XX The present invention relates to a novel immunomodulator comprising an
 CC antigen-presenting-cell (APC) targeting molecule (which mimics a super-
 CC antigen but does not include a fully functional T-cell receptor binding
 CC site) coupled to an immunomodulatory antigen. The APC-targeting molecule
 CC is Streptococcus pyogenes pyrogenic exotoxin C (SPEC) or SWEZ or SEA. The
 CC immunomodulator is useful for the treatment of disorders which require
 CC induction or stimulation of the immune system, including viral, fungal,
 CC bacterial, or parasitic infections, autoimmunity, allergy and neoplastic

or pre-neoplastic transformation. The present sequence is S. pyogenes
CC pyrogenic exotoxin C (SPEC) wild-type protein. This sequence is used in
CC the exemplification of the invention.

Sequence 207 AA:

Query Match 88.9%; Score 1095; DB 23; Length 207;
Best Local Similarity 100.0%; Pred. No. 3.2e-100;
Matches 207; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

28 DSKKDISNVKSDLLAYATITPYDKDCRVNFTHTLTINIDQKRGKDYISSEMSYEAS 87
1 DSKKDISNVKSDLLAYATITPYDKDCRVNFTHTLTINIDQKRGKDYISSEMSYEAS 60
88 QKFRDHDVDFGLFYILNSHTGEYIGGITPAQNNKVNKHLGNLFISGESQONLNKI 147
61 QKFRDHDVDFGLFYILNSHTGEYIGGITPAQNNKVNKHLGNLFISGESQONLNKI 120
148 ILEKDIYTFQEIPIKIRKYLMDNKIYDATSPYSGRIEIGTKDGKHEQIDLFDSPNEG 207
121 ILEKDIYTFQEIPIKIRKYLMDNKIYDATSPYSGRIEIGTKDGKHEQIDLFDSPNEG 180
208 RSDIFAKYKDNRIINMKNFHFIDYLE 234
181 RSDIFAKYKDNRIINMKNFHFIDYLE 207

RESULT 12

AAE25373
ID AAE25373 standard; Protein: 207 AA.

30-OCT-2002 (first entry)

S. pyogenes pyrogenic exotoxin C mutant protein (R181Q).

Immunomodulator: antigen-presenting-cell; APC; immune system; infection;
autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEC;
fungicide; cytostatic; mutant; mutain.

Streptococcus pyogenes.
Synthetic.

Key. Location/Qualifiers

Misc-difference 181 /note= "Wild-type Arg substituted with Gln"

WO200245739-A1.

13-JUN-2002.

04-DEC-2001; 2001WO-NZ00267.

04-DEC-2000; 2000US-251243P.

(AUCC-) AUCKLAND UNISERVICES LTD.

Fraser JD, Nicholson MJ;

WPI: 2002-537539/57.

Immunomodulator comprising an antigen-presenting-cell targeting
molecule coupled to an immunomodulatory antigen, useful for treating
e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
allergy

Example 4; Page -: 47pp; English.

The present invention relates to a novel immunomodulator comprising an
antigen-presenting-cell (APC) targeting molecule (which mimics a super-
antigen but does not include a fully functional T-cell receptor binding

site) coupled to an immunomodulatory antigen. The APC-targeting molecule
is Streptococcus pyogenes pyrogenic exotoxin C (SPEC) or SMEZ or SEA. The
immunomodulator is useful for the treatment of disorders which require
induction or stimulation of the immune system, including viral, fungal,
bacterial, or parasitic infections, autoimmunity, allergy and neoplastic
or pre-neoplastic transformation. The present sequence is S. pyogenes
pyrogenic exotoxin C (SPEC) mutant protein (R181Q). This sequence is used
in the exemplification of the invention.

Note: This sequence is not shown in the specification but is derived
from the wild-type SPEC protein shown in page 16 of the specification
(AAE25364).

Sequence 207 AA:

Query Match 88.6%; Score 1091; DB 23; Length 207;
Best Local Similarity 99.5%; Pred. No. 8e-100;
Matches 206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

28 DSKKDISNVKSDLLAYATITPYDKDCRVNFTHTLTINIDQKRGKDYISSEMSYEAS 87
1 DSKKDISNVKSDLLAYATITPYDKDCRVNFTHTLTINIDQKRGKDYISSEMSYEAS 60
88 QKFRDHDVDFGLFYILNSHTGEYIGGITPAQNNKVNKHLGNLFISGESQONLNKI 147
61 QKFRDHDVDFGLFYILNSHTGEYIGGITPAQNNKVNKHLGNLFISGESQONLNKI 120
148 ILEKDIYTFQEIPIKIRKYLMDNKIYDATSPYSGRIEIGTKDGKHEQIDLFDSPNEG 207
121 ILEKDIYTFQEIPIKIRKYLMDNKIYDATSPYSGRIEIGTKDGKHEQIDLFDSPNEG 180
208 RSDIFAKYKDNRIINMKNFHFIDYLE 234
181 QSDIFAKYKDNRIINMKNFHFIDYLE 207

RESULT 13

AAE25368
ID AAE25368 standard; Protein: 207 AA.

AAE25368;

30-OCT-2002 (first entry)

S. pyogenes pyrogenic exotoxin C mutant protein (Y18A).

Immunomodulator: antigen-presenting-cell; APC; immune system; infection;
autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEC;
fungicide; cytostatic; mutant; mutain.

Streptococcus pyogenes.
Synthetic.

Key. Location/Qualifiers

Misc-difference 15 /note= "Wild-type Tyr substituted with Ala"

WO200245739-A1.

13-JUN-2002.

04-DEC-2001; 2001WO-NZ00267.

04-DEC-2000; 2000US-251243P.

(AUCC-) AUCKLAND UNISERVICES LTD.

Fraser JD, Nicholson MJ;

WPI: 2002-537539/57.

Immunomodulator comprising an antigen-presenting-cell targeting
molecule coupled to an immunomodulatory antigen, useful for treating

PT e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
XX allergy -
XX
PS Claim 32; Page -: 47pp; English.
XX
CC The present invention relates to a novel immunomodulator comprising an
CC antigen-presenting-cell (APC) targeting molecule (which mimics a super-
CC antigen but does not include a fully functional T-cell receptor binding
CC site) coupled to an immunomodulatory antigen. The APC-targeting molecule
CC is Streptococcus pyogenes pyrogenic exotoxin C (SPEc) or SMEZ or SEA. The
CC immunomodulator is useful for the treatment of disorders which require
CC induction or stimulation of the immune system, including viral, fungal,
CC bacterial, or parasitic infections, autoimmunity, allergy and neoplastic
CC or pre-neoplastic transformation. The present sequence is S. pyogenes
CC pyrogenic exotoxin C (SPEc) mutant protein (Y15A). This sequence is used
CC in the exemplification of the invention.
CC Note: This sequence is not shown in the specification but is derived
CC from the wild-type SPEc protein shown in page 16 of the specification
CC (AAE25364).
XX
SQ Sequence 207 AA:
Query Match 88.1%; Score 1086; DB 23; Length 207;
Best Local Similarity 99.5%; Pred. No. 2.5e-99;
Matches 206; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
OY 28 DSKKDISNVKSDLLVATTPYDKCRVNSTHTLNDTQYRGKDYISSEMSYEAS 87
Db 1 DSKKDISNVKSDLLAATTPYDKCRVNSTHTLNDTQYRGKDYISSEMSYEAS 60
OY 88 QKFRDHDVDFGLFYILNSHTGEYIGGTPAONNVNKKLGNLFISGEQONLNK1 147
Db 61 QKFRDHDVDFGLFYILNSHTGEYIGGTPAONNVNKKLGNLFISGEQONLNK1 120
OY 148 ILEKDIYTFQEIPIKIRKYLMDNKKIYDATSPVSGRIEIGTQKHEQIDLPSPNEG 207
Db 121 ILEKDIYTFQEIPIKIRKYLMDNKKIYDATSPVSGRIEIGTQKHEQIDLPSPNEG 180
OY 208 RSDIFAKYKDNRIINMKNFSPDIYLE 234
Db 181 RSDIFAKYKDNRIINMKNFSPDIYLE 207
RESULT 14
AAE25374
ID AAE25374 standard; Protein: 207 AA.
XX
AC AAE25374;
XX
DT 30-OCT-2002 (first entry)
XX
DE S. pyogenes pyrogenic exotoxin C mutant protein (N79C).
XX
KW Immunomodulator; antigen-presenting-cell; APC; immune system; infection;
KW autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
KW immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEc;
KW fungicide; cytostatic; mutant; mutain.
XX
OS Streptococcus pyogenes.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT MISC-difference 79 /note= "Wild-type Asn substituted with Cys"
XX
XX WO200245739-A1.
XX
XX 13-JUN-2002.
XX
XX 04-DEC-2001; 2001MO-N00267.
XX
XX 04-DEC-2000; 2000US-251243P.
XX
XX

PA (AUCC-) AUCCLAND UNISERVICES LTD.
XX
PI Fraser JD, Nicholson MJ;
XX
DR WPI; 2002-537539/57.
XX
PT Immunomodulator comprising an antigen-presenting-cell targeting
PT molecule coupled to an immunomodulatory antigen; useful for treating
PT e.g. bacterial, viral, fungal or parasitic infections, autoimmunity and
PT allergy -
XX
PS Example 4; Page -: 47pp; English.
XX
CC The present invention relates to a novel immunomodulator comprising an
CC antigen-presenting-cell (APC) targeting molecule (which mimics a super-
CC antigen but does not include a fully functional T-cell receptor binding
CC site) coupled to an immunomodulatory antigen. The APC-targeting molecule
CC is Streptococcus pyogenes pyrogenic exotoxin C (SPEc) or SMEZ or SEA. The
CC immunomodulator is useful for the treatment of disorders which require
CC induction or stimulation of the immune system, including viral, fungal,
CC bacterial, or parasitic infections, autoimmunity, allergy and neoplastic
CC or pre-neoplastic transformation. The present sequence is S. pyogenes
CC pyrogenic exotoxin C (SPEc) mutant protein (N79C). This sequence is used
CC in the exemplification of the invention.
CC Note: This sequence is not shown in the specification but is derived
CC from the wild-type SPEc protein shown in page 16 of the specification
CC (AAE25364).
XX
SQ Sequence 207 AA:
Query Match 88.1%; Score 1086; DB 23; Length 207;
Best Local Similarity 99.5%; Pred. No. 2.5e-99;
Matches 206; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
OY 28 DSKKDISNVKSDLLVATTPYDKCRVNSTHTLNDTQYRGKDYISSEMSYEAS 87
Db 1 DSKKDISNVKSDLLVATTPYDKCRVNSTHTLNDTQYRGKDYISSEMSYEAS 60
OY 88 QKFRDHDVDFGLFYILNSHTGEYIGGTPAONNVNKKLGNLFISGEQONLNK1 147
Db 61 QKFRDHDVDFGLFYILNSHTGEYIGGTPAONNVNKKLGNLFISGEQONLNK1 120
OY 148 ILEKDIYTFQEIPIKIRKYLMDNKKIYDATSPVSGRIEIGTQKHEQIDLPSPNEG 207
Db 121 ILEKDIYTFQEIPIKIRKYLMDNKKIYDATSPVSGRIEIGTQKHEQIDLPSPNEG 180
OY 208 RSDIFAKYKDNRIINMKNFSPDIYLE 234
Db 181 RSDIFAKYKDNRIINMKNFSPDIYLE 207
RESULT 15
AAE25395
ID AAE25395 standard; Protein: 207 AA.
XX
AC AAE25395;
XX
DT 30-OCT-2002 (first entry)
XX
DE S. pyogenes pyrogenic exotoxin C mutant protein (Y15C).
XX
KW Immunomodulator; antigen-presenting-cell; APC; immune system; infection;
KW autoimmunity; allergy; neoplastic; antibiotic; virucide; parasiticide;
KW immunosuppressive; Streptococcus pyogenes pyrogenic exotoxin C; SPEc;
KW fungicide; cytostatic; mutant; mutain.
XX
OS Streptococcus pyogenes.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT MISC-difference 15 /note= "Wild-type Tyr substituted with Cys"
XX
XX

Query Match	Best Local Similarity	Score	DB	Length	207
Matches	206	Conservative	0	Mismatches	1
				Indels	0
				Gaps	0
28	DSKDKISNVKSDLLAYVITTPYDKDCVNSTHTLIDIPQKRGKQYVYISSEMYAS	87			
1	DSKDKISNVKSDLLAYVITTPYDKDCVNSTHTLIDIPQKRGKQYVYISSEMYAS	60			
88	QKFRKDDHVDVDFGLFYLINSHTGEGITTPYPAQNNKYNHKLGLFTSGESQOVLNKKI	147			
61	QKFRKDDHVDVDFGLFYLINSHTGEGITTPYPAQNNKYNHKLGLFTSGESQOVLNKKI	120			
148	ILEKDIYVFOEIDEFKIRKYLMDNKKIYDATSPYVSGRIEIGTKDKGKHQIDLFDSPNCGT	207			
121	ILEKDIYVFOEIDEFKIRKYLMDNKKIYDATSPYVSGRIEIGTKDKGKHQIDLFDSPNCGT	180			
208	RSDFIAKKKNNRIINMKNFSPDITYLE	234			
181	RSDFIAKKKNNRIINMKNFSPDITYLE	207			

Search completed: August 28, 2003, 02:57:37
Job time : 70 secs